

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0036. The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

OMB APPROVED
0579-0036
Exp.: 10/31/2018

This report is required by law (7 U.S.C. 2143). Failure to report according to the regulations can result in an order to cease and desist and to be subject to penalties as provided for in Section 2150.

Interagency Report Control
No. 0180-DOA-AN

Fiscal Year 2013

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NUMBER
54-R-0001

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

WEST VIRGINIA UNIVERSITY
886 CHESTNUT RIDGE RD
P O BOX 6845
MORGANTOWN, WV 26506

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets, if necessary.)

FACILITY LOCATIONS (Sites)

(b)(7)(F)

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets, if necessary, or use APHIS FORM 7023A.)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress on these animals and the reasons such drugs were not used must be attached to this report.)	F. TOTAL NUMBER OF ANIMALS (Cols. C + D + E)
4. Dogs	0	0	0	0	0
5. Cats	0	0	0	0	0
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	73	50	123
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	136	0	136
11. Pigs	0	0	0	0	0
12. Other Farm Animals					
13. Other Animals					

ASSURANCE STATEMENTS

- Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility.
- Each principal investigator has considered alternatives to painful procedures.
- This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the IACUC approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- The attending veterinarian for this research facility has appropriate authority to ensure the provisions of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer (C.E.O.) or Legally Responsible Institutional Official (I.O.))

I certify that the above is true, correct, and complete (7 U.S.C. Section 2143).

SIGNATURE OF C.E.O. OR I.O.

NAME AND TITLE OF C.E.O. OR I.O. (Type or Print)

DATE SIGNED
31-JAN-2014

(b)(6), (b)(7)(c)

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1. REGISTRATION NUMBER
54-R-0002

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

W V SCHOOL OF OSTEOPATHIC MEDICINE
400 N. LEE STREET

LEWISBURG, WV 24901

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets, if necessary.)

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5. Cats	0	0	0	0	0
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	0	0	0
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	0	0	0
11. Pigs	0	0	0	0	0
12. Other Farm Animals					
13. Other Animals					

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NAME AND TITLE OF C.E.O. OR I.O. (Type or Print)

DATE SIGNED
09-DEC-2013

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE**

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NUMBER
54-R-0003

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

PIERPONT COMMUNITY TECHNICAL COLLEGE
1201 LOCUST AVENUE

FAIRMONT, WV 26554

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets, if necessary.)

FACILITY LOCATIONS (Sites)

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4. Dogs	0	0	15	0	15
5. Cats	0	0	16	0	16
6. Guinea Pigs	0	4	0	0	4
7. Hamsters	0	6	0	0	6
8. Rabbits	0	6	0	0	6
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	0	0	0
11. Pigs	0	0	0	0	0
12. Other Farm Animals					
13. Other Animals					

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NAME AND TITLE OF C.E.O. OR I.O. (Type or Print)

DATE SIGNED
09-JUN-2014

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ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NUMBER
54-R-0004

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

MARSHALL UNIVERSITY
1 JOHN MARSHALL DRIVE

HUNTINGTON, WV 25755

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets, if necessary.)

FACILITY LOCATIONS (Sites)

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4. Dogs	0	0	0	0	0
5. Cats	0	0	0	0	0
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	0	0	0
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	0	0	0
11. Pigs	0	0	2	0	2
12. Other Farm Animals					
13. Other Animals					

ASSURANCE STATEMENTS

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09-DEC-2013

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NUMBER
54-R-0008

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

CARVER CAREER CENTER
4799 MIDLAND DRIVE

CHARLESTON, WV 25306

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets, if necessary.)

FACILITY LOCATIONS (Sites)

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4. Dogs	0	25	7	0	32
5. Cats	0	23	20	0	43
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	0	0	0
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	0	0	0
11. Pigs	0	0	0	0	0
12. Other Farm Animals					
13. Other Animals					

ASSURANCE STATEMENTS

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SIGNATURE OF C.E.O. OR I.O.

NAME AND TITLE OF C.E.O. OR I.O. (Type or Print)

DATE SIGNED
03-FEB-2014

(b)(6), (b)(7)(c)

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UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NUMBER
54-V-0002

2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code)

VA MEDICAL CENTER (581)
1540 SPRING VALLEY DRIVE

HUNTINGTON, WV 25704

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FACILITY LOCATIONS (Sites)

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5. Cats	0	0	0	0	0
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	0	0	0
9. Non-human Primates	0	0	0	0	0
10. Sheep	0	0	0	0	0
11. Pigs	0	0	0	0	0
12. Other Farm Animals					
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18-FEB-2014

(b)(6), (b)(7)(c)

Column E Explanations**Registration Number: 54-R-0001****WVU Internal Protocol Number 11-0401:**

- Rabbits
- Number Used in category E = 44
- Procedures that are considered to cause pain or distress:

Rabbits are given 2% cholesterol in the diet to induce beta amyloid deposits which has been shown to produce Alzheimer's pathology. Over the course of the ten weeks that rabbits are on the diet, cholesterol elevates serum cholesterol and may produce atherosclerosis and liver toxicity.

- Scientific justification why pain and/or distress could not be relieved:

The cholesterol-fed rabbit is not only the classic model for atherosclerosis but is also becoming a model for Alzheimer's Disease because rabbits fed cholesterol show increased beta amyloid deposits in the brain compared to controls fed normal chow. These deposits only start forming after 6 weeks on the diet and become a model for Alzheimer's pathology when the rabbit has been fed the diet for at least 8 weeks. The longer the rabbit is on a diet, the more Alzheimer's-like pathology we see. If we stop feeding cholesterol the beta amyloid deposits regress and the rabbit is no longer a good model for Alzheimer's disease.

WVU Internal Protocol Number 13-0803:

- Rabbits
- Number Used in category E = 6
- Procedures that are considered to cause pain or distress:

Diabetes will be induced by an injection of alloxan (100 mg/kg) into the marginal ear vein of each of 6 fasted, anesthetized rabbits. Although diabetes can be managed, it is not reversible. Assessment of diabetes will require blood sampling using a pet glucose meter every day for the first week following alloxan administration and as needed after that. Ketone levels will also need to be monitored throughout by urinalysis. Ketone levels above trace (>5 mg/dl) will be treated with insulin. Following the first week after alloxan administration, glucose levels can be assessed by a pet glucose meter or urinalysis. Blood glucose levels above 600 mg/dl or ketone levels above trace will require administration of long-lasting insulin (1-4 U/kg, glargine) until glucose and ketone levels return to less

than 600 mg/dl and trace, respectively. Blood glucose levels below 300 mg/dl will require a second injection of alloxan in fasted rabbits.

- Scientific justification why pain and/or distress could not be relieved:

Alloxan-induced diabetes in rabbits has been shown to produce Alzheimer's Disease-like pathology that includes beta amyloid accumulation and tau phosphorylation. This model is likely to be a better match for the human condition than rodent models due to the reliable presence of both markers as seen in humans. This pathology was shown by Bitel et al. (2012) in untreated diabetic rabbits with blood glucose levels over 300 mg/dl. We will study learning in alloxan-induced diabetes in rabbits with blood glucose levels of at least 300 mg/dl. This diabetes is not reversible and will be treated with insulin only if rabbits develop ketonuria (> trace ketones in urine) or glucose levels exceeding 599 mg/dl (600 or more on a Multistix). The purpose of this pilot study is to determine endpoints. We don't know at what point the Alzheimer's Disease-like pathology and potential deficits in learning and memory will take place. It may be that lower blood glucose levels will produce similar effects but that it may take longer for them to manifest.